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BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER	
GUGLIOTTA, NICOLE T	
ART UNIT	PAPER NUMBER
1783	

NOTIFICATION DATE	DELIVERY MODE
11/26/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com
offserv@bipc.com

Office Action Summary	Application No.	Applicant(s)	
	10/533,879	PONCET-LEGRAND ET AL.	
	Examiner	Art Unit	
	NICOLE T. GUGLIOTTA	1783	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 September 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 3 - 39* is/are pending in the application.

4a) Of the above claim(s) *15 - 38* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3 - 14 & 39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 21, 2010 has been entered.

Examiner's Note

Examiner acknowledges the amendments to claims 1, withdrawn claim 15, & 39.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1, 3 – 15 & 39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

a. Considering Applicant's amendment, "…first part having coupling agent**s** attached thereto…," the Examiner notes Applicant's specification fails to teach more than one coupling agent on the surface of the inorganic part of the particle. Applicant's specification teaches the presence of only one coupling agent C on the surface of the inorganic component of the particle.

b. Considering Applicant's amendment, "…wherein the dissymmetric particle is produced...by controlling the concentration and the size of the first part in the solvent so that the ratio between the number of said first parts in the solvent and the number of said second parts to be formed in the solvent is close to 1," the Examiner notes Applicant's specification Example 1 does not teach a concentration of silica for reacting with organic material B, or that the ratio of such a reaction is close to 1. Applicant directs the Examiner to Example 1 on page 13 for support of this amendment limitation. However, Example 1 on page 13 teaches the modification (adsorption, not covalent bonding) of the surface of the single silica component with a macromonomer (a surfactant or coupling agent, **not** the organic material B (second part) of the dimer).

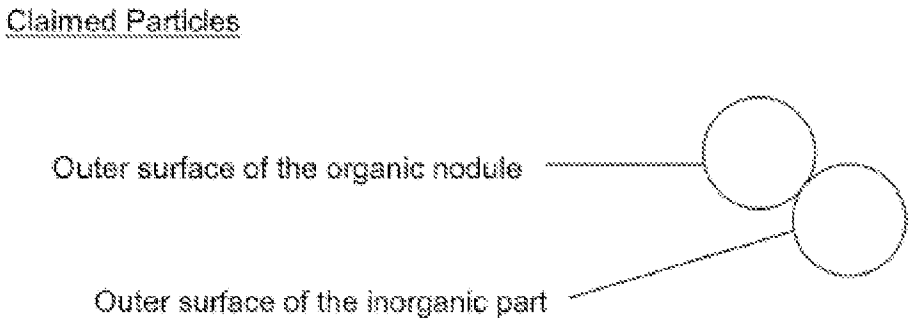
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

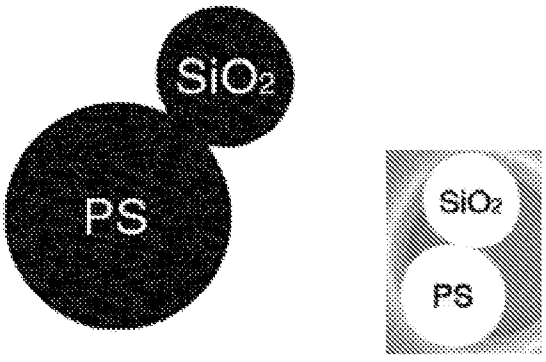
> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3 – 14 & 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xia et al. (*J. Am. Chem. Soc.* 2001, 123, 771 – 772), in view of Reculusa et al. (*Chem. Mater.* 2002, 14, 2354 – 2359), and further in view of Yadav et al. (US 2003/0102099 A1).

APPLICANT'S INVENTION (drawing taken from Applicant's Remarks, pg 14, dated July 16, 2009)



PRIOR ART (Xia et al., Figures 2c and 3; wherein PS is a polystyrene organic nodule (second part) and SiO_2 is the inorganic (first) part of the particle)



Xia et al. disclose an asymmetric dimer comprising spherical silica and spherical polystyrene (Figure 2, pg 772, left column of text) **(claims 1, 3, 10 & 14)**.

Xia et al. disclose part sizes greater than 1 micron, which is larger than the size of the entire particle claimed by Applicant. However, Xia et al. explicitly teach dimers of their disclosure "should be extendable to a smaller scale than those suggested by [their' examples" (pg 772, last paragraph).

Reculusa et al. also disclose particles for use in paints, gas-liquid chromatography and catalyst supports (pg 2354, right column, last 3 lines of last paragraph) consisting of 2 parts: spherical silica particles and spherical polystyrene nodules (pg 2354, second column first paragraph). The silica (inorganic) part of the particles disclosed by Reculusa et al. have an approximate diameter of 500 nm (Pg 2356, right columns, first paragraph) and each polystyrene nodule has a diameter of 200 nm (pg 2357, right column, bottom of the third paragraph).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the size of the polystyrene beads and silica colloids in the asymmetric dimers disclosed by Xia et al. to optimize the particles size according to the intended use, as Reculusa et al. teach there are a wide variety of uses for particles consisting of silica carriers and polystyrene nodules.

Xia et al. and Reculusa et al. fail to disclose particle parts in the range of 50 nm to 250 nm **(claims 1 & 39)**.

Yadav et al., however, disclose nano-dispersed powders used in paints and catalyst supports (¶ [0011]), comprising carrier particles (i.e. silica) (¶ [0053]) and a

dispersed particle attach to the carrier particle, such as a polymer (¶ [0054]). These powders (i.e. particles) are preferably less than 100 nm is size (sub-micron and nanoscale) (¶ [0009]) because these particles are the building blocks for desirably smaller products (¶ [0004]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the size of the particles disclosed by Xia et al. (and Reculusa et al.) to less than 100 nm in order to build smaller products, which would satisfy the demands of the markets for smaller products, as taught by Yadav et al.

In addition, MPEP §2144.04. IV. A. states the following:

> In *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

Therefore, although Applicant has amended their claim limitation regarding the size of the inorganic (claim 1) and organic parts (claim 39) of their dissymmetric particle to a smaller range, they have failed to show a functional difference between their claimed invention and the prior art based on the size of the particle components alone. Therefore, Applicant's claim limitation of the size of the first part (claim 1) and second part (claim 39) of the dissymmetric particle is not a patentably distinct feature.

In addition, Xia et al. joined the polystyrene nodule and silica colloid by the application of heat alone, thus failing to teach a coupling agent between silica colloids and polystyrene beads in the asymmetric dimer of their invention.

However, Reculusa et al. disclose the silica surface can be modified to allow anchoring of the polymers. In the past, this was achieved by grafting alkoxysilane to the silica surface (pg 2355, Col. 1, Lines 14 - 18). Examiner considers alkoxysilane modification on the silica surface to be a "coupling agent" **(claims 1, 5 & 6)**. Reculusa et al. also describe the method of joining silica with polystyrene via a silane coupling agent, as previously taught by Tissot et al. (Pg 2354, Col. 2, Lines 4 - 5). Reculusa et al. adsorbed hydrophilic PEG methacrylate macromonomer, an initiator and a surfactant as the coupling agents of choice (corresponds to Applicant's plurality of coupling agents attached to the first part (inorganic part)), in addition to heat, for joining the polystyrene nodules to the silica colloid (Pg. 2355, Col. 2, last paragraph; Pg 2357, Col. 2, 2nd full paragraph & Fig. 4). This method results in a strong attachment of polystyrene nodules of 200 nm diameter to the silica surface (Pg 2357, Col. 2, 3rd full paragraph). Reculusa et al. further teach the presence of macromonomer is a vital component to forming the smaller polystyrene nodules desired (Pg. 2358, Col. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to form a strong attachment between polystyrene nodules and silica colloids by modifying the method disclosed by Xia et al. with the addition of coupling agents, such as PEG methacrylate macrononomer. Reculusa et al. teach the presence of the PEG methacrylate macromonomer is a vital component for obtaining the desired nanometer sized polystyrene particles.

Claim 1 defines the product (a single dissymmetric particle) by how the product was made (i.e. (a) organic material B is a polymer comprised of recurrent units *derived from* a vinyl compound, (b) the particle is *produced* with a precursor of the second part, (c) as well as a *controlling the concentration* of first parts *in the solvent* such that the ratio of first and second parts is 1). Thus, claims 1, 3 – 14 & 39 are product-by-process claims. For purposes of examination, product-by-process claims are not limited to the manipulation of the recited steps, only the structure implied by the steps. See MPEP 2113. In the present case, the recited steps imply a structure for a dimer particle comprising an inorganic part of the particle comprising more than one coupling agent, attached to an organic part of the particle comprising a single coupling agent. The reference suggests such a product.

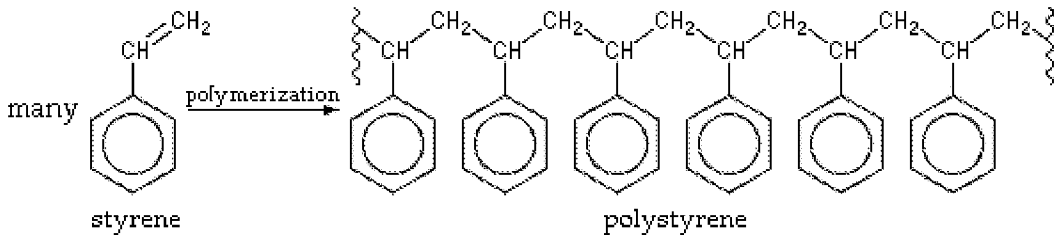
Examiner refers applicant to MPEP § 2113 [R - 1] regarding product-by-process claims. "The patentability of a product does not depend on its method or production. If the product in the product-by-process claim is the same as or obvious from a product or the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777, F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citation omitted)

Once the examiner provides a rationale tending to show that the claimed product appears to be same or similar to that of the prior art, although produced by a different process, the burden shifts to the applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218, USPQ 289, 292 (Fed. Cir. 1983)

The Examiner notes that Applicant's claimed article is a dissymmetric particle of nanometric or mesoscopic size, not a solution consisting of only dissymetric dimer particles. Therefore, despite Applicant's product-by-process claim limitation of controlling the concentration of each component in the solvent, so long as the prior art teaches the formation of just one dimer, a single dissymmetric particle of nanometric or mesoscopic size is taught by the prior art and therefore meets the limitation of Applicant's claim 1.

In regard to claim 4, as discussed above for claims 1 and 3, Xia et al. disclose the inorganic material is silica (silicon dioxide). Silicon is a metal. When silicon is in the form of silica, it is stable in an aqueous medium.

In regard to claims 7 – 8, Xia et al. disclose polystyrene as the organic part of their asymmetric dimer. Polystyrene polymer comprises recurrent units of –CR = CR'- (vinyl compound), wherein R represents H and R' represents the alkyl group of a phenyl ring, as shown below. The phenyl ring is an aromatic group (comprises resonating double bonds) and is thus a functional group.



In regard to claim 9, Xia et al. and Reculusa et al. are both silent in regard to cross-linking. However, any polymer nodule contains cross-linking or it doesn't.

Therefore, regardless the absence of an explicit disclosure by the references, the polystyrene nodules disclosed by both Xia et al. and Reculusa et al. are crosslinked or noncrosslinked.

In regard to claim 11, Xia et al. disclose in Figure 3 asymmetric dimers, each comprising a silica ball and a polystyrene bead of similar size (2.3 μm and 2.5 μm, respectively), thereby teaching the formation of a dimer resembling a dumbbell shape (the two spheres are approximately the same size).

In regard to claim 12, Xia et al. disclose asymmetric dimers that have the shape of a snowman in Figures 2(A) - 2(D), pg 772, left column of text, half way down the column).

In regard to claim 13, Xia et al. & Reculusa et al. are silent in regard to the various shapes the inorganic particle may have.

Yadav et al., however, disclose nano-dispersed powders used in paints and catalyst supports (¶ [0011]), comprising carrier particles (i.e. silica) (¶ [0053]) and a dispersed particle attach to the carrier particle, such as a polymer (¶ [0054]). The inorganic particle (i.e. silica) can be in the shape of spheres, tubes (corresponds to Applicant's "rod", platelets (corresponds to Applicant's "disk") & irregular shaped structures (Figure 2, ¶ [0043]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention for the inorganic part of particle taught by Xia et al. to be shaped

according to the desired application of the dissymmetric particle, as disclosed by Yadav et al.

Response to Arguments

3. Applicant argues, “The invention is achieved by means of a first part (such as silica) having a relatively small size, i.e., between 50 to 250 nm. Indeed, very small inorganic particles (< 50 nm) may not attach a nodule of polymer; and a very large inorganic particle (> 250 nm) may attach two nodules (as explained in the specification page 5, lines 34 - 36)” (Remarks, Pg 12).

EXAMINER’S RESPONSE: Applicant's arguments have been fully considered but they are not persuasive. Page 5, Lines 34 – 36 of Applicant’s specification teaches "very small inorganic particles may not attach nodule, and very large inorganic particles may attach two nodule”. The terms “very small” and “very large” are not defined in Applicant’s specification. Examiner notes these advantages and disadvantages of very small and very large inorganic particles are stated in general terms after discussing the larger inorganic particle size range of 5 nm – 1 micron. Therefore, the only reasonable interpretation of the term "very small inorganic particles" would be particles much smaller than 5 nm and "very large inorganic particles" would be particles much greater than 1 micron.

In addition, MPEP §2144.04. IV. A. states the following:

> In *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions

> would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

Therefore, Applicant has failed to show particles sizes less than 50 nm or more than 250 nm has an impact on the function of the dissymmetric particle claimed.

4. Applicant argues, “Reculusa et al. report that raspberry-like particles may be obtained by means of large silica seeds (≥ 500 nm) previously surface-modified by the adsorption of macromonomer molecules” (Remarks, Pg 1).

EXAMINER’S RESPONSE: Applicant's arguments have been fully considered but they are not persuasive. First, as discussed above, claimed articles are not patentably distinct from the prior art if Applicant fails to show the article will perform differently than the prior art.

Second, Applicant's arguments are moot in view of the new grounds of rejection.

5. Applicant argues, “In the examples disclosed by Reculusa et al., the number of polymer nodulus in the solvent is 250 times higher than the number of silica particles to ensure that a maximum number of polymer nodules are attached to the surface of one silica particles. In these examples, the silica concentration is kept constant and the macromonomer concentration is adjusted in function of the silica size so as to saturate the silica surface" (Remarks, Pg 1).

EXAMINER’S RESPONSE: Applicant's arguments have been fully considered but they are not persuasive. First, as discussed above, Applicant's amended product-

by-process claim limitation is moot considering Applicant's claimed article is a dissymmetric particle, not a solvent consisting of dimers.

Second, Applicant's claim product-by-process claim limitation does not change narrow the scope of the claim. As discussed above, so long as one dissymetrical particle consisting of an inorganic material A, a coupling agent and an organic material B, claim 1 is taught by the prior art.

Third, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The Examiner notes Reculusa et al. is/was the secondary reference of the rejection. The primary reference of the rejection was Xia et al., whom clearly teach the formation of dimer particles. Xia et al. was modified with Reculusa et al. due to the presence of coupling agents and adjusting the particle sizes. Therefore, Applicant's argument concerning the concentration of silica relative to the presence of organic material B is moot in the disclosure of Reculusa et al. is moot.

Fourth, the Examiner directs Applicant to the rejection under 35 U.S.C. ¶112, first paragraph concerning this claim amendment.

6. Applicant argues, "Even if Zia et al. suggests using smaller dimensions, the combination of Reculusa et al. and Xia et al. would have led the skilled person to use particles having the smallest dimensions disclosed in Reculusa et al. and Zia et al., i.e.

particles having a size of 500 nm. For this reason, the skilled person would not have had a well reasoned basis for using particles of lesser size (between 50 – 250 nm) to produce dissymmetric particles" (Remarks, Pgs 12 - 13).

EXAMINER'S RESPONSE: Applicant's arguments have been fully considered but they are not persuasive. The Examiner directs Applicant to the discussion above concerning claimed particles of lesser size.

7. Applicant argues, "Even if one skilled in the art would have interpreted Xia et al., or even Yadav et al., to find a well reasoned basis for reducing the size of the particles of Reculusa et al., the skilled worked would have not have had any basis for reproducing the dissymmetric particle as claimed, but rather the raspberry-like (symmetric) particles of considerably smaller size. As shown above, Reculusa et al. do not suggest adjusting the size and concentration of silica in the solvent to obtain a 1:1 ratio between the amount of silica and polymer, which is the only known way for producing the claimed particles" (Remarks, Pgs 13).

EXAMINER'S RESPONSE: Applicant's arguments have been fully considered but they are not persuasive. The Examiner directs Applicant to the discussion above.

8. Applicant argues, "The Office Action asserts that it would have been obvious that a single nodule can be added to a silica surface simply by adding only one macromonomer chain to the silica surface for polymerization. Applicants respectfully disagree.

"First, it is not possible to ensure that a single macromonomer chain is added to the silica surface in a solvent comprising macromonomer chains and silica particles. Further, according to the invention, and as recited in claim 1, the surface of the first part (e.g. silica) is covered not only with one coupling agent, but rather with many coupling agents" (Remarks, pg 13).

EXAMINER'S RESPONSE: Applicant's arguments have been fully considered but they are not persuasive. First, the Examiner notes that Applicant has confused the macromonomer chain of their invention with the organic nodule of their invention. The macromonomer chain of Applicant's invention (pg 13, Example 1) is a coupling agent or surfactant for modifying the surface for improving the probability of bonding the silica to the organic nodule B.

Second, the Examiner notes the Examined claims are drawn to a dissymmetric particle, not a method of making a solution consisting only of dissymmetric particles.

Third, it is possible to ensure a single organic nodule attaches to a single silica component to form a dissymmetric component. The key to such a method is by limiting the amount of the coupling agent and organic nodule mixed with the silica, such that the silica is always in excess compared to the amount of coupling agent (first mixing step) and the amount of organic nodule (second separate mixing step). The last step would be to filter out the silica that did not bond with the organic nodule by use of affinity chromatography (the stationary phase of the chromatography column would have an affinity for the organic nodule). The basic principles of such a purification method is commonly performed in the art of biochemistry for purifying solutions of labeled

(modified) proteins such that only one label is attached to one protein. Another method of achieving said invention would be to use the method taught by Xia et al. after modifying the surfaces of parts B and C with coupling agent.

Fourth, the Examiner directs Applicant to the rejection under 35 U.S.C. §112, first paragraph above.

9. Applicant argues, "Reculusa et al. do not teach how to grow a single nodule of polymer on a first part (such as silica) carrying a plurality of coupling agents" (Remarks, Pg 13).

EXAMINER'S RESPONSE: Applicant's arguments have been fully considered but they are not persuasive. First, as discussed above, Applicant's specification does not teach a plurality of coupling agents present on the silica surface. It only teaches the presence of "coupling agent C". Second, Reculusa et al. teach a plurality of coupling agents, as discussed above.

10. Applicant argues, "Xia et al. fail to disclose these features, and in particular feature b), according to which a plurality of first parts carrying coupling agents are mixed with a plurality of second parts in a single batch, and the size and the concentration of the first parts are adjusted in function of the number of second parts to be formed so that the above-mentioned ratio is close to 1. On the contrary, Xia et al. teach welding a single silica particle onto a single PS head in a single hold, both particle and head being already formed before welding" (Remarks, Pgs 13 - 14).

EXAMINER'S RESPONSE: Applicant's arguments have been fully considered but they are not persuasive. First, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., plurality of first and second parts) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Second, the Examiner directs Applicant to the discussion above concerning the product-by-process limitations and rejection under 35 U.S.C. §112, first paragraph of claims 1 and 15.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE T. GUGLIOTTA whose telephone number is (571)270-1552. The examiner can normally be reached on M - F 8:30 a.m. - 6 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit 1786

/NICOLE T GUGLIOTTA/
Examiner, Art Unit 1783